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Determination of biogenic amines from electrocatalytic responses of graphite electrodes modified with metallic osmium or an osmium oxide-ruthenium cyanide film

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Abstract

Particles of osmium or an inorganic polymeric film of osmium oxide-ruthenium cyanide (OsO-RuCN) electrodeposited on glassy carbon (GC) electrocatalyze the oxidation of dopamine (DA), adrenaline (AD), and noradrenaline (NAD). It is found that these biogenic amines are determined with a high sensitivity by oxidation at an electrode with an OsO-RuCN film. Procedures for the voltammetric determination of DA, AD, or NAD at a composite film electrode are developed. The currents of the substrate oxidation are linear functions of the concentrations in the ranges from 5 × 10-7 to 1 × 10-3 M for DA and from 1 × 10-6 to 1 × 10-3 M for AD and NAD. © 2008 MAIK Nauka.

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